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ABSTRACT

In 1996, Florida's Miami-Dade Community College conducted a study to examine the college preparatory completion rates of first-time degree-seeking students based on their verbal and mathematics entry-level placement scores. Results include the following: (1) fewer than 30% of students scoring at the lowest level on the mathematics placement test completed college preparatory after 3 years, regardless of their score on the verbal sections of the placement test; (2) in contrast, 40% to 52% of the students who scored below college-level on both verbal subtests but were not deficient in mathematics completed college preparatory within 3 years; (3) students who tested below college-level on one verbal subtest and in mathematics, but not at the lowest level, had a college preparatory completion rate of 37%; (4) students who tested below college-level on both verbal subtests and at the lowest level in mathematics had a completion rate of only 6%; (5) students who tested below college-level in only one area had a 70% likelihood of completing preparatory coursework, as long as that area was not mathematics; and (6) students who tested below college-level in the area of mathematics only had a 50% likelihood of completing preparatory work. (HAA)

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College Preparatory Completion Rates Based on Verbal and Mathematics Deficiencies

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Institutional Research

Information Capsule

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MIAMI-DADE COMMUNITY COLLEGE - INSTITUTIONAL RESEARCH

INFORMATION CAPSULE

I.C. No. 96-06C

April 1996

College Preparatory Completion Rates Based on Verbal and Mathematics Deficiencies

Purpose and Summary

This capsule examines the college preparatory completion rates of first-time degree-seeking students based on their verbal and mathematics entry level placement scores. Results indicate that mathematics deficiencies place students the most at-risk for completing college preparatory.

Fewer than 30% of students scoring at the lowest level on the mathematics placement test completed college preparatory after three years, no matter what their score on the verbal sections of the placement test. In contrast, 40-52% of students scoring below on both verbal subtests completed college preparatory within three years, as long as they were not also deficient in mathematics. Students with combined verbal and mathematics deficiencies had college preparatory completion rates ranging from a high of 37% (below on one verbal and mathematics, but not at the lowest levels) to a low of 6% (below on both verbal and mathematics at the lowest levels). These data should be helpful to the Education Review efforts focused on student flow.

Introduction

Previous research (R.R. No. 94-19R) has shown that students who need and complete college preparatory instruction have success rates comparable to college ready students. That same study, however, noted that students with multiple deficiencies on entry are less likely to make it through college preparatory . This capsule examines college preparatory completion rates in more detail by : (1) considering verbal and mathematics deficiencies separately and in combination rather than simply listing the number of areas in which a student is deficient; and (2) examining the performance of students who scored at the lowest levels on each subtest.

Results by Level of Deficiency

Table 1 and Figure 1 present results for the Fall Term 1992 Cohort (n=6,716) of first-time-in-college degree seeking students who have had three years to complete college preparatory.

The college preparatory three year completion rates are most easily seen from the figure. The bottom line represents students below on mathematics at the lowest level. Note that even if the students are below on none of the verbal subtests (leftmost point), the completion rate is only 29%. Moving to the right along the line, the completion rate drops below 20% as soon as one verbal deficiency is added, and below 10% when there are deficiencies in both verbal areas. The next line from the bottom represents students below on mathematics, but not at the lowest level. Their college preparatory completion rate is 54% if they passed both verbal subtests. It drops below 40% as soon as one verbal deficiency is added, and ranges from 10-22% with two verbal deficiencies. Finally, the top line represents students with passing scores on the mathematics subtest. The college preparatory completion rate is above 50% for all categories, except when students were at the lowest level on both verbal areas where the rate is 40%.

Table 1 shows these same combinations of verbal and mathematics subtest performance, including whether the student scored at the lowest level. Shaded areas are those where one third or fewer students completed college preparatory. Note that there are combinations with very few students represented. For example, only 99 students were below on one verbal subtest at the lowest level, and these students distribute across the mathematics subtest performance. Also, only 101 students were below on all three subtests at the lowest level. Each of these groups represents only about 1.5% of the total conort. The most likely combinations (with at least 200 students in the categories) include below on mathematics but not at the lowest level combined with most of the possible verbal deficiencies (total n=2,091), and below on one or two verbal areas but not at the lowest level and above on mathematics (n=628 + 264).

These data strongly suggest that mathematics deficiencies place students most at risk for completing college preparatory coursework. Those combinations of deficiencies where one third or fewer students complete college preparatory (shaded areas) include all of the categories involving mathematics except two, and account for 1,856 students or 28% of the group.

Results- Verbal and Mathematics Combinations Irrespective of Level of Deficiency

Tables 2a through 2f and their accompanying figures present college-wide and campus results for three separate cohorts of first-time students. The Fall Term 1992 cohort has had 3 years to complete college preparatory, while the Fall term 1994 cohort has had only one year. The students are grouped by combinations of verbal and mathematics subtest performance, without consideration as to whether they scored at the lowest level. This is because the numbers at these lowest levels were too small for useful comparison when campus level data are presented (see Table 1).

The collegewide pattern in Table 2a and Figure 2a is duplicated at most campuses. Note from the Figure that the highest college preparatory completion rate (above 70%) occurs for students with only one verbal deficiency, and that this rate does not improve for students who have had three years to complete (The 1992 group). Students with two verbal deficiencies (but not mathematics) perform on a par with those who have a deficiency in mathematics only- about 50% complete college preparatory. When the two areas below are mathematics and one verbal area, the completion rate drops to 34% after three years. Finally, the lowest college preparatory completion rate is for those students deficient in all areas.

Summary

Who is most at risk for completing college preparatory? Students below on only one area have a 70% likelihood of completing, if that one area is verbal and not mathematics. If a student is below on one area but it is mathematics, the odds drop to 50%. Students below on two areas have a 50% likelihood of completing college preparatory, as long as the two areas are verbal. Once mathematics is one of the areas below, the odds drop to 34%.

Method

Data were obtained from the Developmental/ESL Cohort File (IRS79) using a SAS analysis. This file contains first-time-in-college students from each Fall term, and follows their progress longitudinally. Students who began in Fall term 1992 have had three years to complete college preparatory. Those who began in the Fall term of 1994, have had only one year. For each starting group, students with English Placement Test (EPT) scores were excluded, as were students without a full set of placement scores. If SAT or ACT scores were present, the student was assumed to have passed the subtest. Otherwise, scores were coded for college preparatory based on which placement test was written, and when. Course records on the file were then examined, and completion was defined as receiving an 'S' in the highest level college preparatory course.

Cathy Morris
Ron Vorp

Table 1
College Preparatory Completion Rate
Degree Seeking Tested Students
COLLEGE WIDE
Fall Term 1992 Cohort- Three Year Outcomes
(Shaded areas indicate one third or fewer completing college preparatory)

Verbal Subtests Below	Mathematics Subtests Below: None			One			One, Lowest			Total		
	No.	Comp	%	No.	Comp	%	No.	Comp	%	No.	Comp	%
None	1,981	1,981	100%	1,000	539	54%	56	16	29%	3,037	2,536	84%
One	628	455	72%	795	294	37%	87	14	16%	1,510	763	51%
One, Lowest	27	16	59%	57	19	33%	15	2	13%	99	37	37%
Two	264	138	52%	711	159	22%	138	12	9%	1,113	309	28%
Two, One Lowest	105	55	52%	371	63	17%	106	6	6%	582	124	21%
Two, Both Lowest	80	24	40%	214	21	10%	101	8	8%	375	51	14%
Total	3,065	2,669	87%	3,148	1,095	35%	503	56	11%	6,716	3,820	57%

Source: IRSTR Research Files, Wylbur job IRSTRCP

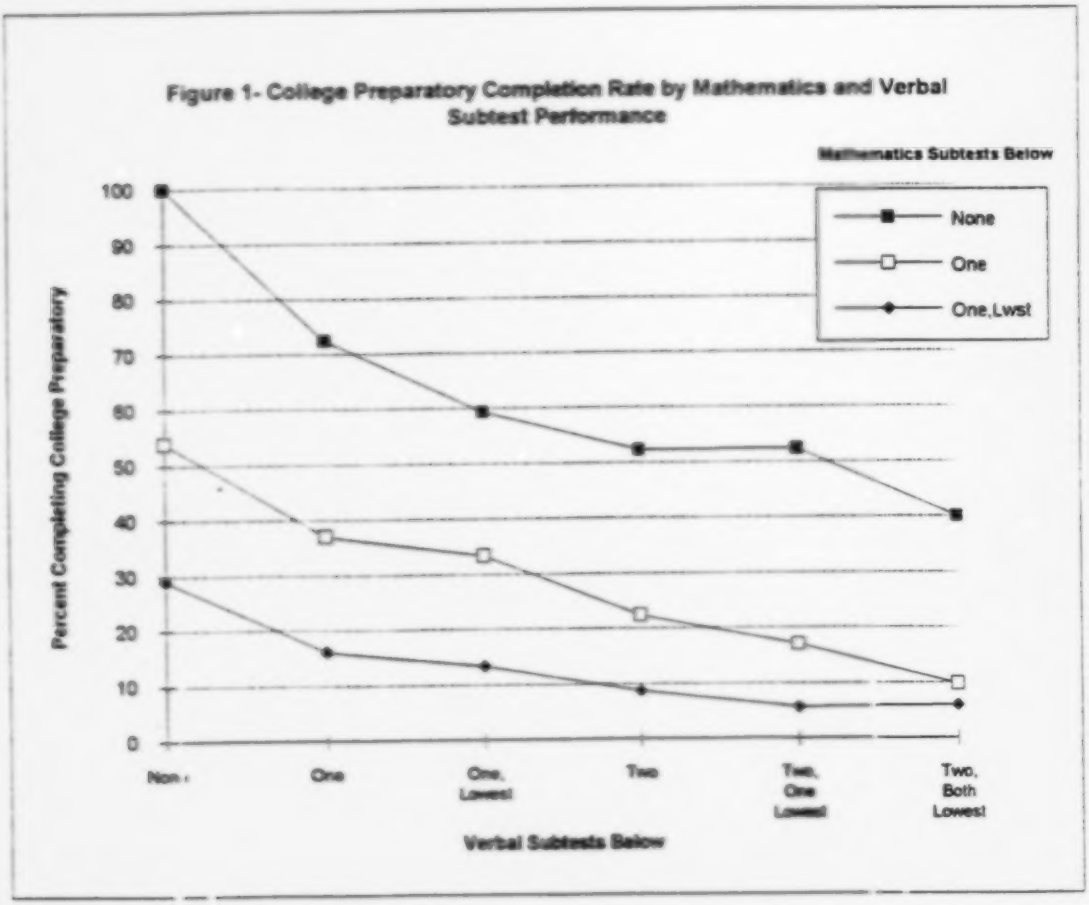

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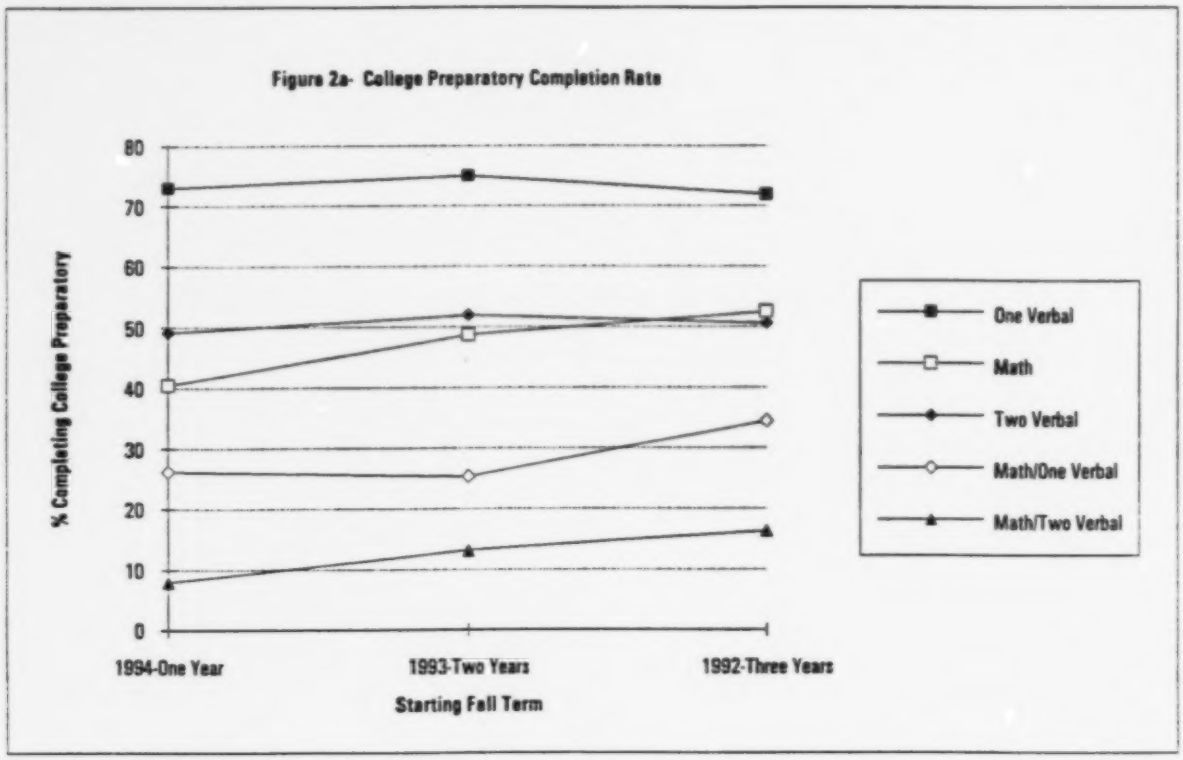
Table 2a
College Preparatory Completion Rate
Degree Seeking Tested Students
COLLEGE WIDE

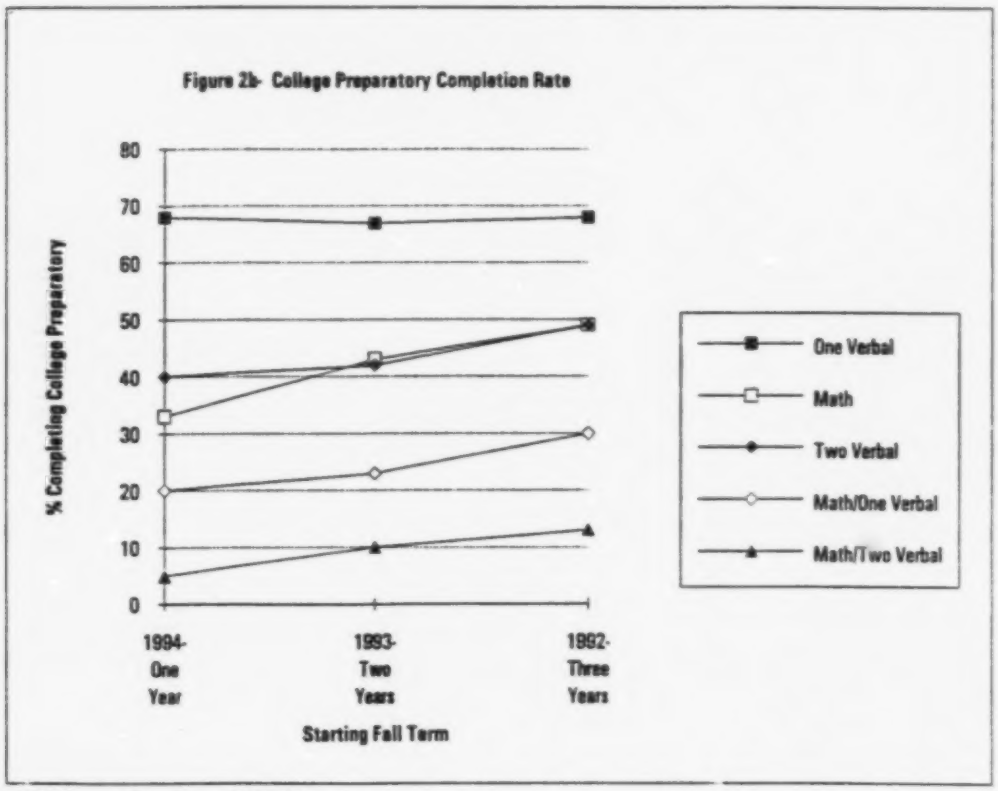
	Fall 1992- 3 Yrs			Fall 1993- 2 Yrs			Fall 1994- 1 Yr		
Subtests Below	No.	Comp	%	No.	Comp	%	No.	Comp	%
None	1,981	1,981	100%	2,062	2,062	100%	1,865	1,865	100%
One Verbal	655	471	72%	604	453	75%	534	390	73%
Math	1,056	555	53%	1,028	501	49%	995	403	41%
Two Verbal	429	217	51%	489	254	52%	421	207	49%
Math/One Verbal	954	329	34%	836	212	25%	874	229	26%
Math/Two Verbal	1,641	267	16%	1,492	196	13%	1,484	118	8%
Total	6,716	3,820	57%	6,511	3,678	56%	6,173	3,212	52%



Source: IRS79 Research Files, Wylbur job IRS79CP

Table 2b
College Preparatory Completion Rate
Degree Seeking Tested Students
NORTH

	Fall 1992- 3 Yrs			Fall 1993- 2 Yrs.			Fall 1994- 1 Yr		
Subtests Below	No.	Comp	%	No.	Comp	%	No.	Comp	%
None	465	465	100%	435	435	100%	416	416	100%
One Verbal	194	132	68%	166	112	67%	142	97	68%
Math	326	159	49%	332	143	43%	283	94	33%
Two Verbal	143	70	49%	141	59	42%	126	51	40%
Math/One Verbal	345	103	30%	280	65	23%	316	64	20%
Math/Two Verbal	693	90	13%	551	55	10%	570	30	5%
Total	2,166	1,019	47%	1,905	869	46%	1,853	752	41%

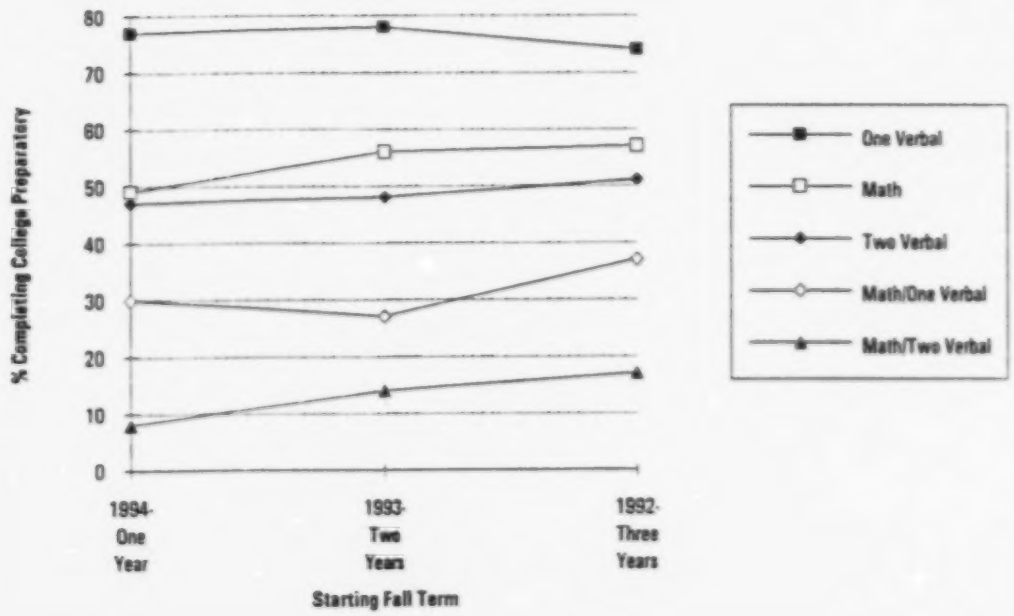


Source: IRS79 Research Files. Wybur job IRS79CP

Table 2c
College Preparatory Completion Rate
Degree Seeking Tested Students
KENDALL

	Fall 1992- 3 Yrs			Fall 1993- 2 Yrs			Fall 1994- 1 Yr		
Subtests Below	No.	Comp	%	No.	Comp	%	No.	Comp	%
None	1,148	1,148	100%	1,216	1,216	100%	1,013	1,013	100%
One Verbal	334	246	74%	290	226	78%	266	206	77%
Math	488	278	57%	448	253	56%	434	212	49%
Two Verbal	159	81	51%	199	96	48%	165	77	47%
Math/One Verbal	375	139	37%	326	88	27%	331	100	30%
Math/Two Verbal	485	83	17%	494	70	14%	459	39	8%
Total	2,989	1,975	66%	2,973	1,949	66%	2,668	1,647	62%

Figure 2c- College Preparatory Completion Rate

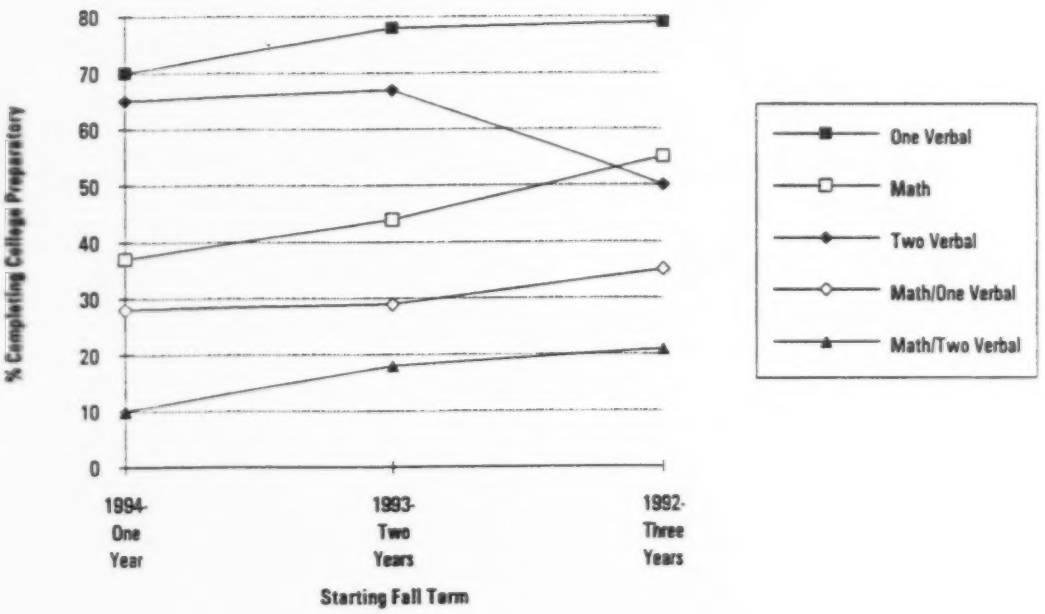


Source: IRS79 Research Files, Wylbur job IRS79CP

Table 2d
College Preparatory Completion Rate
Degree Seeking Tested Students
WOLFSON

	Fall 1992- 3 Yrs			Fall 1993- 2 Yrs			Fall 1994- 1 Yr		
Subtests Below	No.	Comp	%	No.	Comp	%	No.	Comp	%
None	268	268	100%	316	316	100%	278	278	100%
One Verbal	92	73	79%	109	85	78%	91	64	70%
Math	165	91	55%	174	76	44%	180	66	37%
Two Verbal	104	52	50%	117	78	67%	100	65	65%
Math/One Verbal	165	58	35%	150	43	29%	141	39	28%
Math/Two Verbal	316	66	21%	289	52	18%	298	29	10%
Total	1,110	608	55%	1,155	650	56%	1,088	541	50%

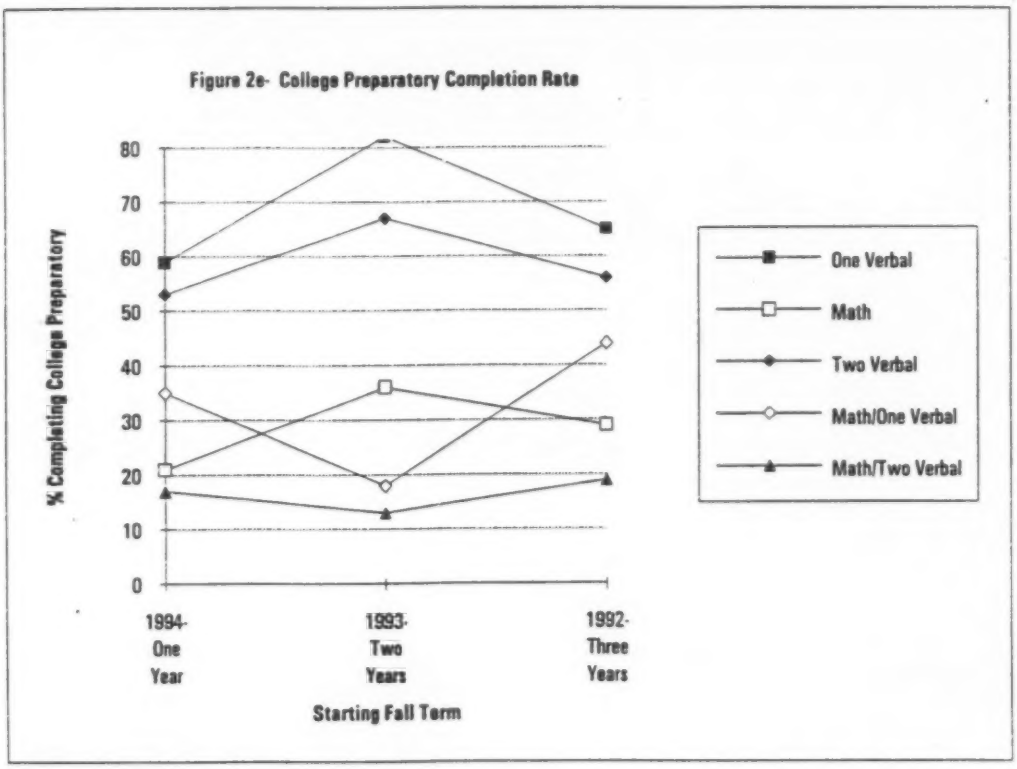
Figure 2d- College Preparatory Completion Rate



Source: IRS79 Research Files, Wylbur job IRS79CP

Table 2e
College Preparatory Completion Rate
Degree Seeking Tested Students
MEDICAL

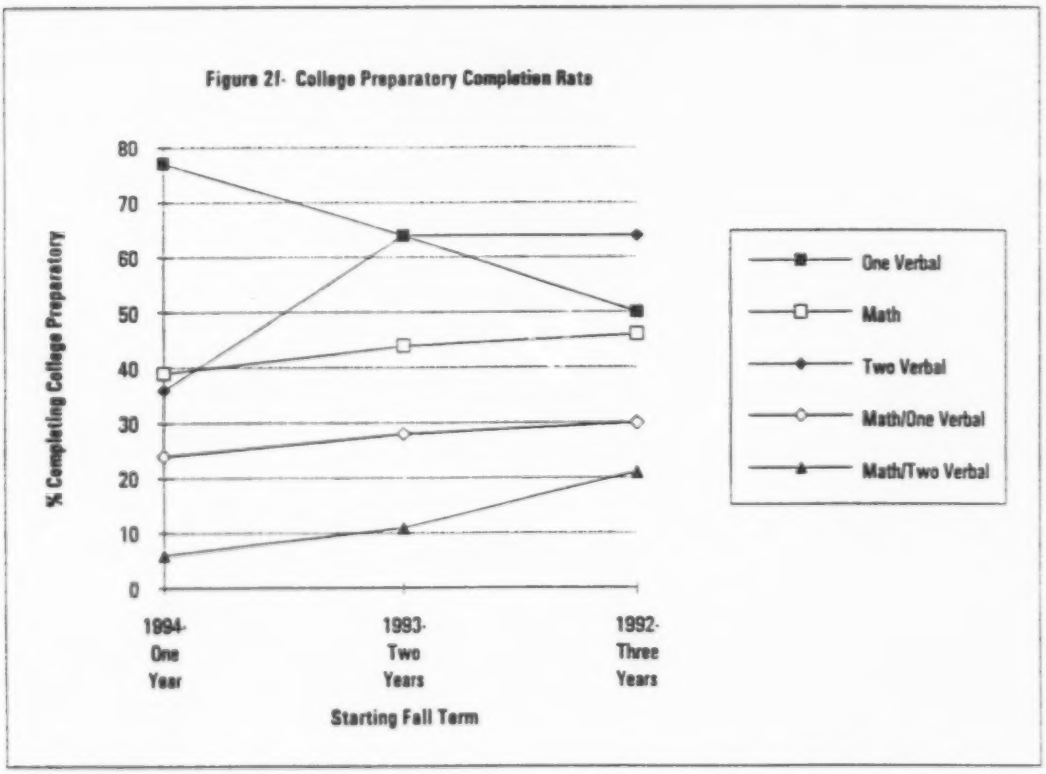
	Fall 1992- 3 Yrs			Fall 1993- 2 Yrs			Fall 1994- 1 Yr		
Subtests Below	No.	Comp	%	No.	Comp	%	No.	Comp	%
None	50	50	100%	35	35	100%	71	71	100%
One Verbal	17	11	65%	28	23	82%	22	13	59%
Math	49	14	29%	47	17	36%	42	9	21%
Two Verbal	9	5	56%	18	12	67%	19	10	53%
Math/One Verbal	59	26	44%	62	11	18%	49	17	35%
Math/Two Verbal	108	20	19%	111	14	13%	103	17	17%
Total	292	126	43%	301	112	37%	306	137	45%



Source: IRS79 Research Files, Wylbur job IRS79CP

Table 2f
College Preparatory Completion Rate
Degree Seeking Tested Students
HOMESTEAD

	Fall 1992- 3 Yrs			Fall 1993- 2 Yrs			Fall 1994- 1 Yr		
Subtests Below	No.	Comp	%	No.	Comp	%	No.	Comp	%
None	50	50	100%	60	60	100%	87	87	100%
One Verbal	18	9	50%	11	7	64%	13	10	77%
Math	28	13	46%	27	12	44%	56	22	39%
Two Verbal	14	9	64%	14	9	64%	11	4	36%
Math/One Verbal	10	3	30%	18	5	28%	37	9	24%
Math/Two Verbal	39	8	21%	47	5	11%	54	3	6%
Total	159	92	58%	177	98	55%	258	135	52%



Source: IR579 Research Files, Wylbur job IRS79CP